

PI 1162580

REC'D 10 MAY 2004

WIPO PCT

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

May 06, 2004

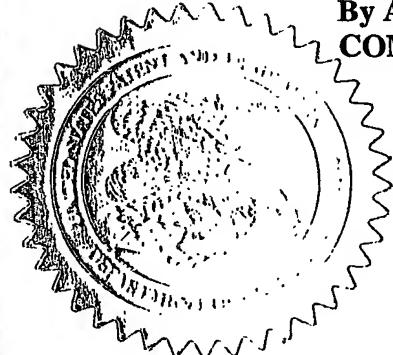
THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM  
THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK  
OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT  
APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A  
FILING DATE.

APPLICATION NUMBER: 60/495,655

FILING DATE: *August 15, 2003*

RELATED PCT APPLICATION NUMBER: PCT/US04/06568

By Authority of the  
COMMISSIONER OF PATENTS AND TRADEMARKS



M. SIAS  
Certifying Officer

PRIORITY  
DOCUMENT

SUBMITTED OR TRANSMITTED IN  
COMPLIANCE WITH RULE 17.1(a) OR (b)

S-178692  
CO/ST/93

1 Please type a plus sign (+) inside this box → +

PTO/SB/18 (02-01)

Approved for use through 10/31/2002, OMB 0651-0032  
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

Express Mail Label No. EL 995079250 US

17613 U.S. PTO  
60/495655  
08/15/03**INVENTOR(S)**

|  |                        |   |
|--|------------------------|---|
| Given Name (first and middle [if any]) | Family Name or Surname | Residence<br>(City and either State or Foreign Country) |
| Carl                                   | Christensen            | South Jordan, Utah USA                                  |

 Additional inventors are being named on the next separately numbered sheets attached hereto**TITLE OF THE INVENTION (280 characters max)****BROADCAST ROUTER OPTIMIZED FOR ASYMMETRICAL CONFIGURATION****CORRESPONDENCE ADDRESS**

Direct all correspondence to:

 Customer NumberPlace Customer Number  
Bar Code Label here

OR

Type Customer Number here

 Firm or  
Individual Name

JOSEPH S. TRIPOLI, THOMSON MULTIMEDIA LICENSING INC.

Address

PATENT OPERATIONS.

Address

P. O. BOX 5312

City

PRINCETON

State

NJ

ZIP

08543-5312

Country

USA

Telephone

609-734-6805

Fax

609-734-6888

**ENCLOSED APPLICATION PARTS (check all that apply)** Specification Number of Pages

2

 CD(s), Number Drawing(s) Number of Sheets Other (specify) Application Data Sheet. See 37 CFR 1.76**METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)** Applicant claims small entity status. See 37 CFR 1.27. A check or money order is enclosed to cover the filing feesFILING FEE  
AMOUNT (\$) The Commissioner is hereby authorized to charge filing  
fees or credit any overpayment to Deposit Account Number:

07-0832

160

 Payment by credit card. Form PTO-2038 is attached.The invention was made by an agency of the United States Government or under a contract with an agency of  
the United States Government. No. Yes, the name of the U.S. Government agency and the Government contract number are: \_\_\_\_\_.Respectfully submitted,  
SIGNATURE*Francis A. Davenport*

Date August 15, 2003

TYPED or PRINTED NAME

FRANCIS A. DAVENPORT

REGISTRATION NO.  
(if appropriate)

36,316

Docket Number:

PU 0302446

TELEPHONE 609 734-6805

**USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT**

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

08/15/03  
 08  
 99  
 U.S.  
 PTO

# FEE TRANSMITTAL for FY 2003

Patent fees are subject to annual revision.

**TOTAL AMOUNT OF PAYMENT** (\$ 160)

## Complete If Known

|                      |                  |
|----------------------|------------------|
| Application Number   | N/A              |
| Filing Date          | HEREWITH         |
| First Named Inventor | Carl Christensen |
| Examiner Name        | N/A              |
| Group / Art Unit     | N/A              |
| Attorney Docket No.  | PU 030246        |

## METHOD OF PAYMENT (check one)

1.  The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

|   |                                   |
|---|-----------------------------------|
| Deposit Account Number  | 07-0832                           |
| Deposit Account Name  | THOMSON multimedia Licensing Inc. |
| <input checked="" type="checkbox"/> Charge Any Additional Fee Required<br>Under 37 CFR 1.16 and 1.17<br><input type="checkbox"/> Applicant claims small entity status.<br>See 37 CFR 1.27 |                                   |

2.  Payment Enclosed:

Check  Credit card  Money Order  Other

## FEE CALCULATION (continued)

| 3. ADDITIONAL FEES                |          |                       |          |
|-----------------------------------|----------|-----------------------|----------|
| Large Entity Fee Code             | Fee (\$) | Small Entity Fee Code | Fee (\$) |
| 105                               | 130      | 205                   | 65       |
| 127                               | 50       | 227                   | 25       |
| 139                               | 130      | 139                   | 130      |
| 147                               | 2,520    | 147                   | 2,520    |
| 112                               | 920*     | 112                   | 920*     |
| 113                               | 1,840*   | 113                   | 1,840*   |
| 115                               | 110      | 215                   | 55       |
| 116                               | 400      | 216                   | 200      |
| 117                               | 920      | 217                   | 460      |
| 118                               | 1,440    | 218                   | 720      |
| 128                               | 1,960    | 228                   | 980      |
| 119                               | 320      | 219                   | 160      |
| 120                               | 320      | 220                   | 160      |
| 121                               | 280      | 221                   | 140      |
| 138                               | 1,510    | 138                   | 1,510    |
| 140                               | 110      | 240                   | 55       |
| 141                               | 1,280    | 241                   | 640      |
| 142                               | 1,280    | 242                   | 640      |
| 143                               | 460      | 243                   | 230      |
| 144                               | 620      | 244                   | 310      |
| 122                               | 130      | 122                   | 130      |
| 123                               | 50       | 123                   | 50       |
| 126                               | 180      | 126                   | 180      |
| 581                               | 40       | 581                   | 40       |
| 148                               | 740      | 246                   | 370      |
| 149                               | 740      | 249                   | 370      |
| 179                               | 740      | 279                   | 370      |
| 169                               | 900      | 169                   | 900      |
| Other fee (specify) _____         |          |                       |          |
| *Reduced by Basic Filing Fee Paid |          |                       |          |
| SUBTOTAL (3) (\$ 0)               |          |                       |          |

\*or number previously paid, if greater; For Reissues, see above

## SUBMITTED BY

Complete (if applicable)

|                   |                      |                                  |        |           |              |
|-------------------|----------------------|----------------------------------|--------|-----------|--------------|
| Name (Print/Type) | Francis A. Davenport | Registration No. Attorney/Agent) | 38,316 | Telephone | 609-734-6805 |
| Signature         | Francis A. Davenport |                                  | Date   | 09/15/03  |              |

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

### BROADCAST ROUTER OPTIMIZED FOR ASYMMETRICAL CONFIGURATION

In previous linearly expandable broadcast router architectures each chassis with both input and output cards and would usually be designed to support the same number of outputs and inputs per chassis. While the prior methods have the advantages of a single chassis being capable of providing a complete system, a new advantageous approach has offers configurations when the ratio of inputs to outputs varies significantly from a more usual one to one relationship. This approach also has advantages when constructing very large routers (routers greater than 1024 x 1024).

A novel architecture for a broadcast router. The architecture consists of input chassis and output chassis. Multiple input and output chassis are used allowing for a linear expansion of the router. Linearly expandable broadcast router architectures in the past have not handled extremely asymmetrical (many more inputs than outputs or vice versa) configurations well. Input chassis house input cards and an expansion card. Input cards receive and decode a number of incoming input streams. This data is routed to the expansion card. The expansion card takes all the data from all the input cards and transfers this information to all of the output chassis.

Each output chassis receives data from all of the input chassis and transfers that information into a large matrix. The matrix performs the routing function selecting when information is routed to each output card. The output cards in the output chassis take the data to recreate the associated input stream on the outputs of the router.

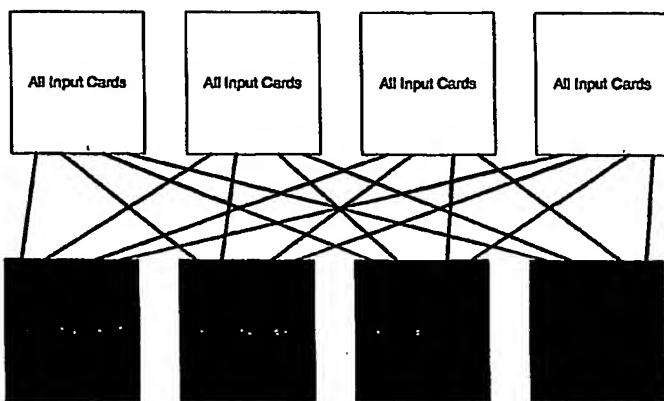


FIGURE 1 is an example of a system configured with the same number of inputs and outputs.

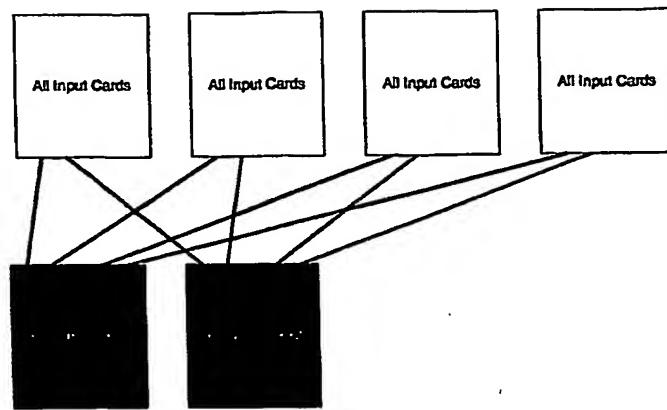


FIGURE 2 is an example of a system with many more inputs than outputs.

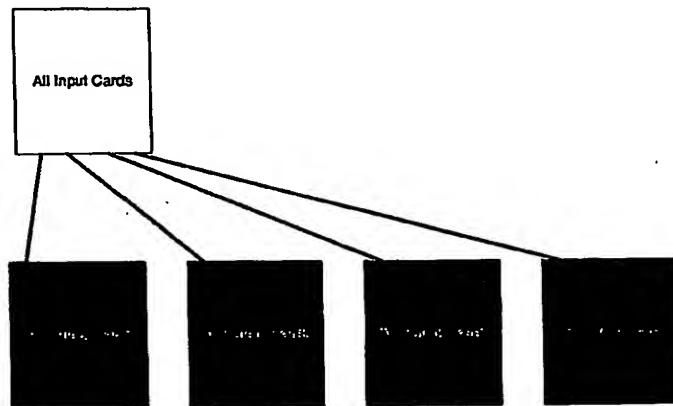


FIGURE 3 is an example of a system with many more outputs than inputs.